



Department of Mathematics

Colloquium

Andrew H. Suk

UC San Diego

New Developments in Hypergraph Ramsey Theory

Abstract: The Ramsey number $r_k(s,n)$ is the minimum integer N , such that for any red/blue coloring of the k -tuples of $\{1,2,\dots,N\}$, there are s integers such that every k -tuple among them is red, or there are n integers such that every k -tuple among them is blue. In this talk, I will discuss new lower bounds for $r_k(s,n)$ which nearly settles a question of Erdős and Hajnal from 1972. I will also discuss a more general function introduced by Erdős and Hajnal, and several interesting open problems in the area. (This is joint work with Dhruv Mubayi.)

About the speaker: Dr. Suk's main areas of research are Geometric Combinatorics and Extremal Combinatorics, he has solved some long-standing open problems and has received recognition as one of the young stars in Combinatorics. He has developed an ambitious and successful research program in an important and competitive field, and has already established himself as a leader and innovator in this field.

Dr. Suk received his Ph.D from Courant Institute of Mathematical Sciences in 2011. Following his graduation, he held an NSF Postdoctoral Fellowship at MIT in 2011-14 under the scientific mentorship of Jacob Fox. Dr. Suk was appointed to a tenure-track Assistant Professorship at the University of Illinois at Chicago in 2014, and joined UCSD in 2017.

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